
UNION COUNTY

(Union County Water Service Area Map)

- Estimated 1999 population of 14,800--90% on public water
- Estimated 2020 population of 17,300--90% on public water
- 350 miles of water lines, with plans for 1 additional mile
- Estimated funding needs for public water 2000-2005: \$1,670,000
- Estimated funding needs for public water 2006-2020: \$0

Union County had an estimated population of 14,824 (5,865 households) in 1999 with a projected population of 17,300 (6,600 households) in 2020. Public water is provided to about 90 percent of the county's residents. In areas of the county not served by public water, nearly all the households rely on private domestic wells. One customer will be added to public water service through proposed new line extensions in 2000-2020.

Estimated Costs - Proposed Projects, 2000-2020

COUNTY/System	Miles	New Customers Number	Cost in \$1000	Rehab In \$1000	Source in \$1000	Treatment in \$1000	Tanks/Pumps in \$1000	Total in \$1000
UNION								-
Uniontown								-
Union County Water District				60			1,090	1,150
Sturgis	1	1	10	10				20
Morganfield					500			500
TOTAL	1	1	10	70	500		1,090	1,670

PUBLIC WATER SYSTEMS

The residents of Union County are presently served by four water systems: 1 water district, Union County Water District, and 3 municipal systems, Morganfield Water Works, Sturgis Water Works, and Uniontown Water and Sewer.

UNION COUNTY WATER DISTRICT

PWSID: 1130433
System Type: COMMUNITY
Owner Type: WATER DISTRICT
Surface Source:
Purchase Source:
Well Source:

WATER SERVICE AREAS

UNION COUNTY

Kentucky

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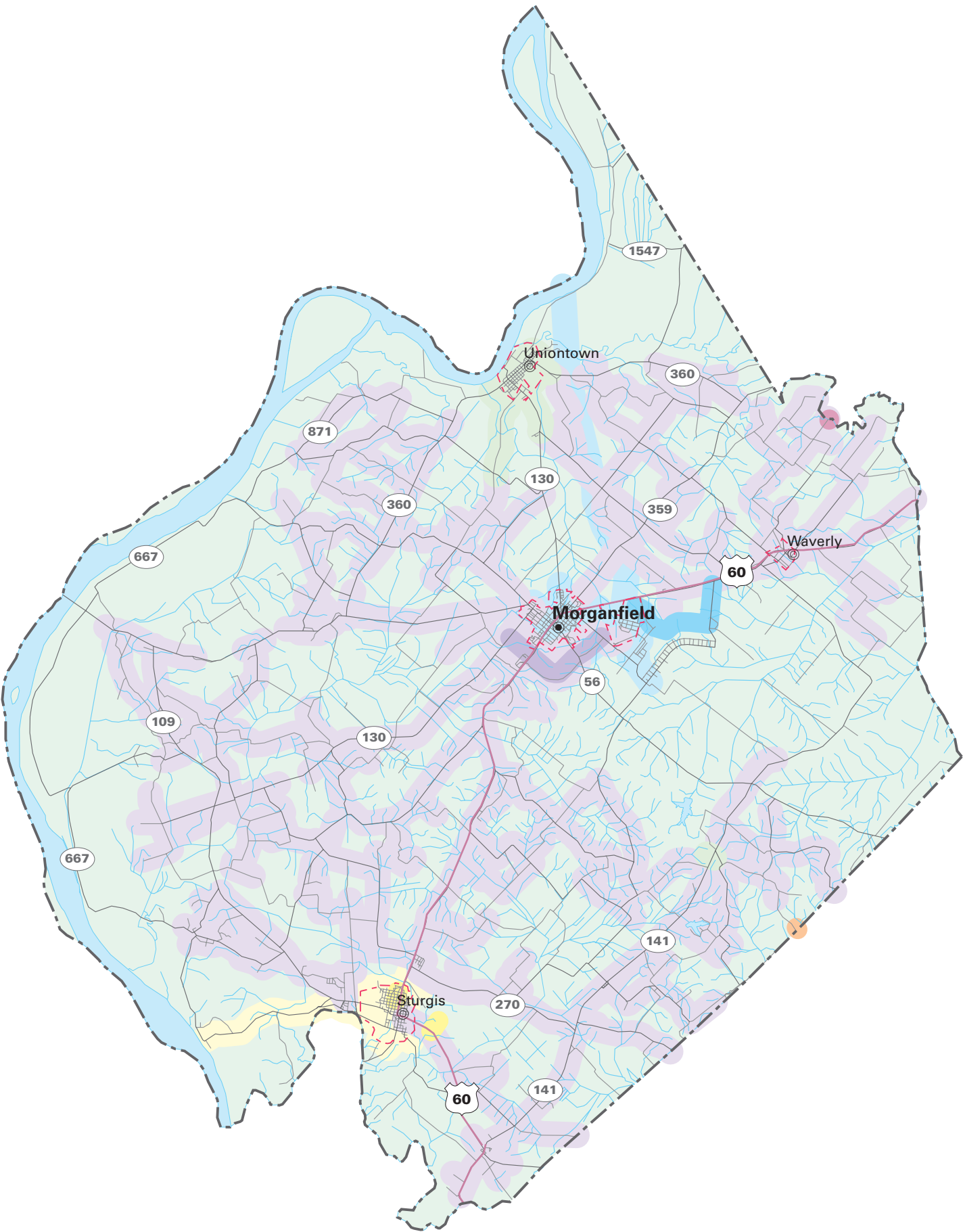
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WATER SERVICE STATUS BY OWNER		
EXISTING SERVICE AREA	PROPOSED SERVICE AREA	
		WEBSTER COUNTY WATER DISTRICT
		UNIONTOWN WATER AND SEWER DEPARTMENT
		UNION COUNTY WATER DISTRICT
		STURGIS WATER WORKS
		MORGANFIELD WATER WORKS
		HENDERSON COUNTY WATER DISTRICT

Sells Water to:.....UNIONTOWN WATER AND SEWER DEPARTMENT
Treatment Plant Capacity (MGD):..... 0.00
Percent Daily Average Production: 0.00
Total Tank Storage Capacity (gallons):..... 1000,000.00
Total Service Connections: 1,773.00
Number of Employees:..... 4.00
Treatment Operator Class:.....2D
Distribution Operator Class:
Customer Rate for 1,000 Gallons:..... 3.70
O/M costs 1997:..... 579,143.00
O/M costs per Service Connection: 303.69
Net Revenue 1997: 84,059.00
Total Water Produced 1997 (gallons):..... 0.00
Water Sold 1997 (gallons):..... 208,050,816.00
Unaccounted-for Water 1997 (%): 17.29

Union County Water District purchases its water from Morganfield Water Works at a rate of \$0.78 per gallon. The district currently serves 1,773 customers (1,709 residential, 52 commercial, 9 institutional, and 3 government) including 7 in Webster County. 8 booster-pumping stations move water through the district. Storage is accomplished by 4 elevated tanks, and three ground storage tanks for a total storage capacity of 1,000,000 gallons.. Union County Water District operates under 4 full time employees.

The need for improvement in this system is increased storage capacity and pressure improvements. Proposed projects will satisfy both of these deficiencies.

MORGANFIELD WATER WORKS

PWSID: 1130293
System Type:..... COMMUNITY
Owner Type: MUNICIPAL
Surface Source:.....OHIO RIVER
Purchase Source:
Well Source:
Sells Water to:.....UNIONTOWN WATER AND SEWER DEPARTMENT
Treatment Plant Capacity (MGD):..... 6.00
Percent Daily Average Production: 54.00
Total Tank Storage Capacity (gallons):..... 1,400,000.00
Total Service Connections: 1,774.00
Number of Employees:..... 7.00
Treatment Operator Class:.....2D
Distribution Operator Class:4A
Customer Rate for 1,000 Gallons:..... 2.35
O/M costs 1997:.....Not available
O/M costs per Service Connection:Not available
Net Revenue 1997:Not available
Total Water Produced 1997 (gallons):.....Not available
Water Sold 1997 (gallons):.....Not available
Unaccounted-for Water 1997 (%):Not available

Morganfield Waters Works draws its water through a wet well along Ohio River. It draws an average of 1.8 million gallons of water daily. There is not a maximum amount of water specified for the removal of water. The system currently services 1,774 customers (1,539 residential, 225 commercial, 10 industrial). Additionally this system sells water to Union County Water District and Uniontown Water and Sewer. Treatment is done by one plant with a 6 million-gallon capacity. On an average, daily treatment consists of 1,500,000 gallons. Storage capacity is 1,400,000 gallons stored by 3 elevated tanks. Based on 5,000 gallons, the calculated water bill would be \$11.73. Morganfield Water Works operates under 7 full time employees.

The need in this system is for additional storage capacity. Based on the average consumption, there is not enough storage for one day of use if the source is contaminated.

STURGIS WATER WORKS

PWSID: 1130422
System Type: COMMUNITY
Owner Type: MUNICIPAL
Surface Source: OHIO RIVER
Purchase Source:
Well Source:
Sells Water to:
Treatment Plant Capacity (MGD): 1.12
Percent Daily Average Production: 23.00
Total Tank Storage Capacity (gallons): 500,000.00
Total Service Connections: 1,230.00
Number of Employees: 9.00
Treatment Operator Class: 2D
Distribution Operator Class: 3A
Customer Rate for 1,000 Gallons: 2.68
O/M costs 1997: Not available
O/M costs per Service Connection: Not available
Net Revenue 1997: Not available
Total Water Produced 1997 (gallons): Not available
Water Sold 1997 (gallons): Not available
Unaccounted-for Water 1997 (%): Not available

Sturgis Water Works draws its water from the Ohio River. There is not a maximum amount of water specified for the removal of water. The district currently services 1,230 customers (1,097 residential, 133 commercial). Treatment is accomplished by one plant with a 1.2 million-gallon capacity. The average production of treated water is 350,000 gallons daily. The district's storage capacity is 500,000 gallons stored by one elevated tank. Based on 5,000

gallons, the calculated water bill would be \$13.42. Sturgis Water Works operates under 9 full time employees.

The need in this district is the upgrading of lines to improve service.

UNIONTOWN WATER AND SEWER DEPARTMENT

PWSID: 1130434
System Type:..... COMMUNITY
Owner Type: MUNICIPAL
Surface Source:..... OHIO RIVER
Purchase Source: MORGANFIELD WATRE WORKS
Well Source:
Sells Water to:
Treatment Plant Capacity (MGD):..... 0.00
Percent Daily Average Production: 0.00
Total Tank Storage Capacity (gallons):..... 250,000.00
Total Service Connections: 590.00
Number of Employees:..... 1.00
Treatment Operator Class:..... 2D
Distribution Operator Class:
Customer Rate for 1,000 Gallons:..... Not available
O/M costs 1997:..... Not available
O/M costs per Service Connection: Not available
Net Revenue 1997: Not available
Total Water Produced 1997 (gallons):..... Not available
Water Sold 1997 (gallons):..... Not available
Unaccounted-for Water 1997 (%): Not available

Uniontown Water and Sewer purchases its water from Morganfield Water Works.

Uniontown formerly produced its own water supply, but now uses their system as a backup.

The district currently serves 590 customers (573 residential, 9 commercial, 4 industrial, 4 institutional). The average use of the system is 108 gallons daily. The system purchases the water at a rate of 108 gallons daily at a cost of \$1.20 per 1000 gallons. The district's storage capacity 250,000 gallons stored in two elevated tanks. Union County Water and Sewer operates under one full-time employee.

There is not a current need for water projects in this district. All serviceable areas are currently receiving water.

PRIVATE DOMESTIC SYSTEMS

About 1,500 people in the county rely on private domestic water supplies: almost all on wells.

The alluvium along the Ohio River is the best source of ground water in the county. In the northern and western edges of the county, nearly all drilled wells from depths of less than 150 feet in the alluvium of the Ohio River valley are adequate for domestic use. Most wells yield more than 50 gallons per minute (gpm) with some wells yielding as much as 1,000 gpm. In over half of Union County most wells that penetrate sandstone formations from depths of less than 300 feet are adequate for a domestic supply. In the highlands of the southeastern part of the county in the old Camp Breckinridge area and in the Grundy Hill area southwest of Uniontown, only a few wells yield enough water for a domestic supply. In a thin highly faulted zone running east west across the county between the towns of Givens and The Rocks, yields to drilled wells are unpredictable due to the faulting.

Generally, ground water is hard to very hard and iron and salt may be present in objectionable amounts. Often ground water becomes saltier with depth.
